



Staff Report for Budget Committee of the Whole Meeting

November 28, 2023

Report Number: SRCS.23.26

Department: Community Services
Division: Public Works Operations

Subject: SRCS.23.26 - South Richvale Greenway Winter Trail Maintenance

Purpose:

To respond to the June 28, 2023 Council motion directing staff to investigate the feasibility of increasing the level of winter maintenance to South Richvale Greenway Trail, in whole or in part, and providing the same winter maintenance standard as certain other City trails. This report also summarizes current issues and criteria associated with expanding the Winter Trail Maintenance Program.

Recommendation(s):

- a) That Staff Report SRCS.23.26 regarding the provision of winter maintenance to the trails within South Richvale Greenway be received.
- b) That winter maintenance of trails within South Richvale Greenway not be enhanced beyond the current level of service that is now being provided.
- c) That a Trails Level of Service Study, as contemplated and recommended in the forthcoming 2023 Transportation Master Plan Update, be completed to comprehensively assess the City-wide trail system and make recommendations for trail design standards, categorization and maintenance service levels.

Contact Person:

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Azadeh Rashvand, Manager Parks Infrastructure and Services

Report Approval:

Submitted by: Tracey Steele, Commissioner of Community Services

Approved by: Darlene Joslin, City Manager

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All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), City Solicitor (as required), Commissioner and City Manager. Details of the reports approval are attached.

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Background:

Winter maintenance is a critical municipal service that involves managing ice and snow on roads and sidewalks and is governed by provincial regulations under O. Reg. 239/02, which sets minimum maintenance standards. Currently, certain City winter maintenance service levels are set by Council-approved targets (SRSC.14.033), with specific standards for sidewalks and roads that are more stringent than O. Reg. 239/02.

Over the last two decades, the City has performed winter maintenance on a number of trails alongside its sidewalk operations. Service to these trails was introduced incrementally over time through various requests especially when they were demonstrated to meet the community's needs for transportation and pedestrian links to schools, facilities, and streets. Approximately 15 kilometres of historically maintained trails (see Figure 1) undergo the same maintenance operation as sidewalks – this includes plowing, shoveling and the application of salt/sand materials. The trail maintenance is integrated into the existing winter maintenance program for sidewalks, making use of the same equipment, staff, and materials. Trail maintenance activities, however, only commence after the City has met its mandated service obligations for roads and sidewalks. This approach prioritizes compliance with legal requirements and City service standards for roads and sidewalks, as well as the efficient allocation of City resources.

The City is in the process of updating its Transportation Master Plan (“TMP”). This update is designed to support the long-term strategies required to ensure that Richmond Hill can effectively accommodate the anticipated growth and evolving transportation needs of the community over the next 30 years. The TMP Update also aims to consolidate the City's Pedestrian and Cycling Master Plan with the Trails Master Plan. The TMP is scheduled to be brought forward to Council in December of 2023 and includes recommendations regarding the development of a Trails Level of Service Study for the City.

The South Richvale Greenway currently receives only limited maintenance during winter months as most of the trail does not meet the Trail Maintenance Criteria established by the Public Works Operations (PWO) Division in 2021/2022 winter.

Discussion:

Trail Maintenance History, Criteria:

Recreational Trails (or “trails”) are defined as established or marked paths or routes through natural areas and/or parks located on Richmond Hill-owned and/or managed lands. Recreational trails include: park pathways, pathways around storm ponds, off-road trails, and walkways from streets to natural areas or parks.

In the winter of 2020 to 2021, during the COVID-19 pandemic when other services were curtailed, the City attempted to expand maintenance of its trail system in order to provide residents with an opportunity for more outdoor activities. This pilot initiative was

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a staff led temporary response to public demand for increased outdoor activities and effectively doubled the total length of trails receiving winter maintenance. Given that there were no established standards for trail services, additional signage was installed to inform pedestrians about the trails that were not being actively maintained during the winter season. The pilot project exposed a number of challenges as follows and trail maintenance has since reverted to pre-pandemic service levels:

- Environmental concerns arise due to the use of de-icing materials and snow removal equipment, potentially harming nearby ecosystems and water bodies.
- The rate of trail wear and tear increases with the repeated use of sidewalk plows on trails that are not designed for vehicle loading. Increased loading leads to more rapid degradation of the trail surfaces.
- Site-specific constraints, such as the type of trail surface (i.e., asphalt, wood chip, etc.), slope grade, turning radius within the trail, trail width, drainage patterns (that result in excessive icing) and load limits on bridges, adds complexity.
- The absence of legislated winter maintenance standards for recreational trails makes it difficult to define service levels, measure performance and mitigate legal liability in the case of accidents or injuries.
- Limited daylight hours during winter months and the absence of lighting on the vast majority of trails adversely impacts operational efficiency and effectiveness as well as public safety.
- Equipment resource allocation issues arise during prolonged winter storm events when winter trail maintenance competes for resources with sidewalk winter maintenance.
- Parking lots (associated with soccer fields and other seasonal activities) located at trail heads in most cases are not plowed during the winter and may need to remain open and cleared of snow to accommodate trail users.

The temporary increase of winter trail maintenance brought to light certain limitations and constraints and led to the development of criteria intended to mitigate environmental impacts to land and water courses near the trails, provide transportation/pedestrian linkages where possible, and ensure safe accessibility by City staff using standardized equipment during winter conditions.

Opportunities for Improvement:

These challenges highlight the need for a comprehensive approach to assessing opportunities for expanding the City's winter trail maintenance program.

The TMP Update is expected to be presented to Council in December 2023. The update will include recommendations for a Trails Level of Service Study, which will categorize both existing and future trails to ensure they are constructed and maintained to meet certain standards. This study will comprehensively assess the unique challenges posed by winter trail maintenance and develop guidelines to inform the design of new trails, and trail maintenance service levels.

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South Richvale Greenway Trail System:

Staff have investigated the possibility of providing winter maintenance to the South Richvale Greenway trail network (Figure 2) with the same maintenance standard provided to 15 kilometres of other city trails that are maintained throughout the winter.

The South Richvale Greenway trail system features a 3.95 kilometres pedestrian recreational trail with a diverse surface composition including sections of asphalt, concrete, crushed limestone, and wood chips. The City's current winter maintenance efforts in the South Richvale Greenway cover only a 145 metre asphalt section from Greenbelt Crescent to St. Charles Garnier Catholic Elementary School.

Trail Infrastructure Constraints:

The trail crosses four (4) pedestrian bridges and one (1) culvert. In addition, this trail has three (3) staircases: one within Wood's Park, and the other within a walkway leading to Sanderson Crescent. Photos of the bridges, boardwalks and stairs can be found in Figure 3.

Operational Constraints:

Current winter maintenance operations within the City's trail system is constrained by fleet requirements. The four (4) pedestrian bridges cannot be properly maintained during the winter due to weight restrictions. Winter maintenance, including the application of sand/salt would therefore be performed by hand.

The gradient of the trail is also an important constraint. Given the capabilities of the City's snow clearing equipment, City staff adhere to a maximum slope of 10% as the recommended best practice. This slope criteria helps ensure plow operator safety as steep slopes can result in loss of plow control or roll overs. Roughly 25% (or 885m) of this trail has segments with slopes exceeding 10%.

Environmental Constraints:

The City's road salt is mixed with sand and is currently used for de-icing on sidewalks and limited portions of the trail system.

The majority of the South Richvale Greenway trail runs parallel to Patterson Creek (upper reaches of the Don River), which makes the application of winter salt problematic. The river section between Carville Road and Weldrick Road is considered habitat for federally and provincially protected endangered Redside Dace fish. They are sensitive to water turbidity levels and sedimentation, which increases with the application of non-chloride alternatives such as sand. The City's 2011 Salt Management Plan recognizes that road salt poses a risk to "plants, animals, birds, fish, lake and stream ecosystems and groundwater." Roughly 8% (or 600m) of the trail is within 10 metres of this watercourse.

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Overall, approximately half of the trail segments fall either within 10 metres of a watercourse or have a slope greater than 10%. Many of the remaining trail segments are isolated and can therefore be difficult to access in icy conditions or deep snow (Figure 4).

Based on the above, the preferred option is to maintain the current existing service levels for the South Richvale trail. That is, continue providing winter maintenance only on the 145 metre asphalt trail from Greenbelt Crescent to St. Charles Garnier Catholic Elementary School.

The forthcoming TMP recommends that a Trails Level of Service Study be completed. This Study will comprehensively categorize future and existing trails, provide guidelines for designing new trails or improving existing ones, and assess appropriate levels of maintenance for the various trail categories. It is recommended that the Trails Level of Service Study be completed to determine recommendations and associated costing for future expansion of winter maintenance to additional recreational trails.

Financial/Staffing/Other Implications:

There are no current additional operational costs for the 2024 fiscal year associated with the recommendations of this report. Funding to complete the recommended Trails Level of Service Study will be requested through future budgeting processes in priority with other recommendations of the TMP.

Relationship to Council's Strategic Priorities 2020-2022:

The recommendations of this report align with the City's overall objectives, particularly in relation to the Council's Strategic priority of getting around the city and balancing growth and green. These priorities emphasize improving ease of movement while also acknowledging the City's commitment to environmental protection including stewardship of green spaces such as parks and trails and longer-term climate action initiatives.

Conclusion:

This staff report responds to Council recommendation 15.4.1(b) from the June 28, 2023 Council Meeting C#24-23 regarding increased levels of winter maintenance on trails within South Richvale Greenway.

In the winter of 2020-2021, in response to increased demand during the COVID-19 pandemic, the city temporarily expanded trail maintenance for one winter season. Recognizing the increased winter usage of the trails and therefore the increased risk of slip and fall claims, enhanced safety measures were implemented by including additional signage.

The 2020/2021 demand for temporary expansion of recreational trail services underscored the need for an evaluation criteria that considers, among other things, environmental impacts, pedestrian access, and safety. The 2020-2021 winter season

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experience demonstrated that expanding winter trail maintenance poses certain challenges, including environmental concerns, trail wear and tear, site-specific physical constraints, lack of standards, limited daylight hours, and parking considerations. These challenges highlighted the importance of a thorough assessment prior to any expansion of winter trail maintenance. Considering these challenges and the established criteria, the recommendation therefore is to continue to maintain the South Richvale trail at current service levels providing winter maintenance only on the 145 metre asphalt trail from Greenbelt Crescent to St. Charles Garnier Catholic Elementary School.

Future enhancements to the South Richvale trail level of service will be guided by the results of a comprehensive program review as recommended by the 2023 Transportation Master Plan Update.

Attachments:

The following attached documents may include scanned images of appendixes, maps and photographs. All attachments have been reviewed and made accessible. If you require an alternative format please call the contact person listed in this document.

- Figure 1 – Historically Winter Maintained Trails
- Figure 2 – South Richvale Greenway Site Overview
- Figure 3 – Site constraints, sample reference
- Figure 4 – Eligibility Criteria

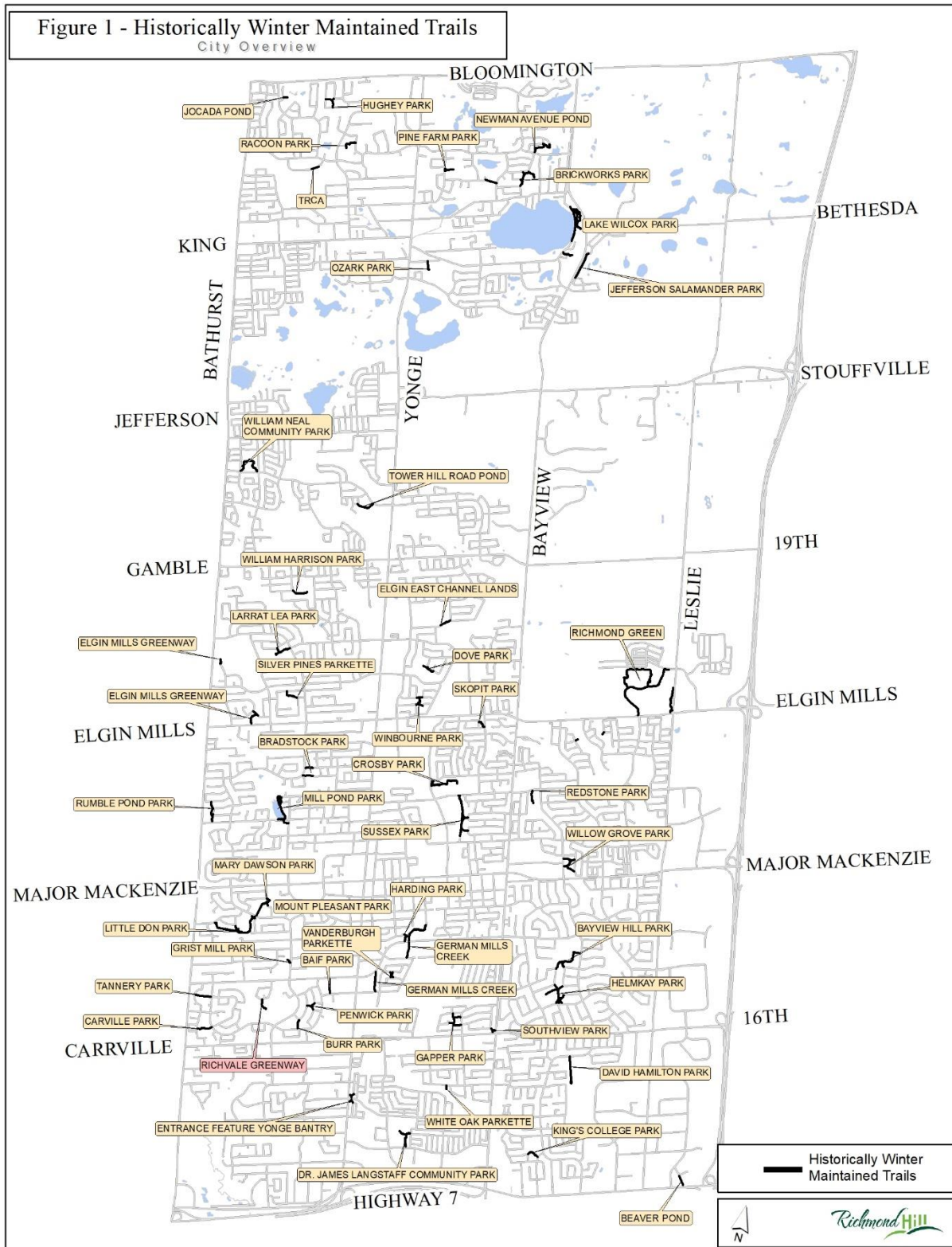
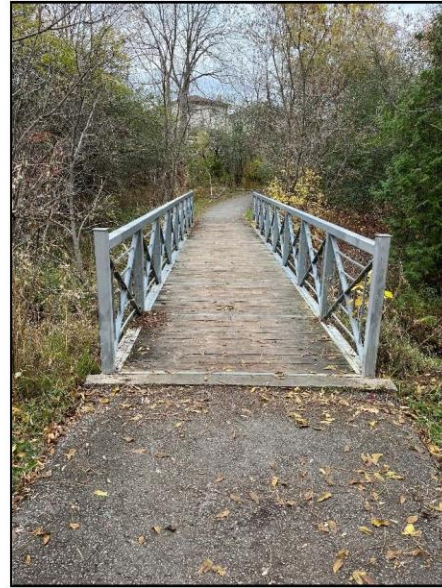




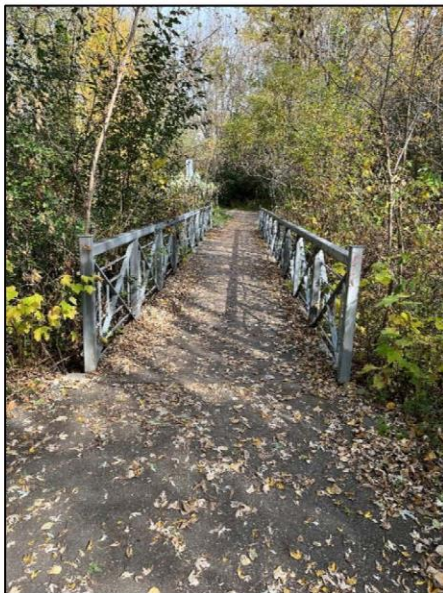
Figure 3 – Site Constraints, sample reference



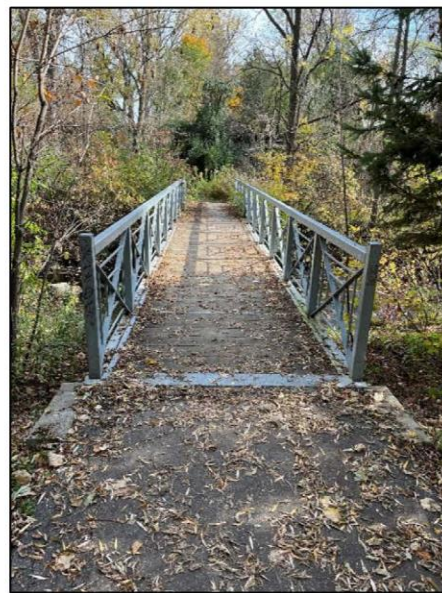
Bridge#1: Richvale Greenway South of
Weldrick Road West



Bridge#2: West of Hillcrest Heights Park



Bridge#3: Richvale Greenway North of
Castle Rock Drive



Bridge#4: Woods Park South of Castle Rock Drive

Figure 3 – Site Constraints, sample reference



Culvert: Greenbelt to St. Charles Garnier School



Trail End: South of Camgreen Court approaching dead-end



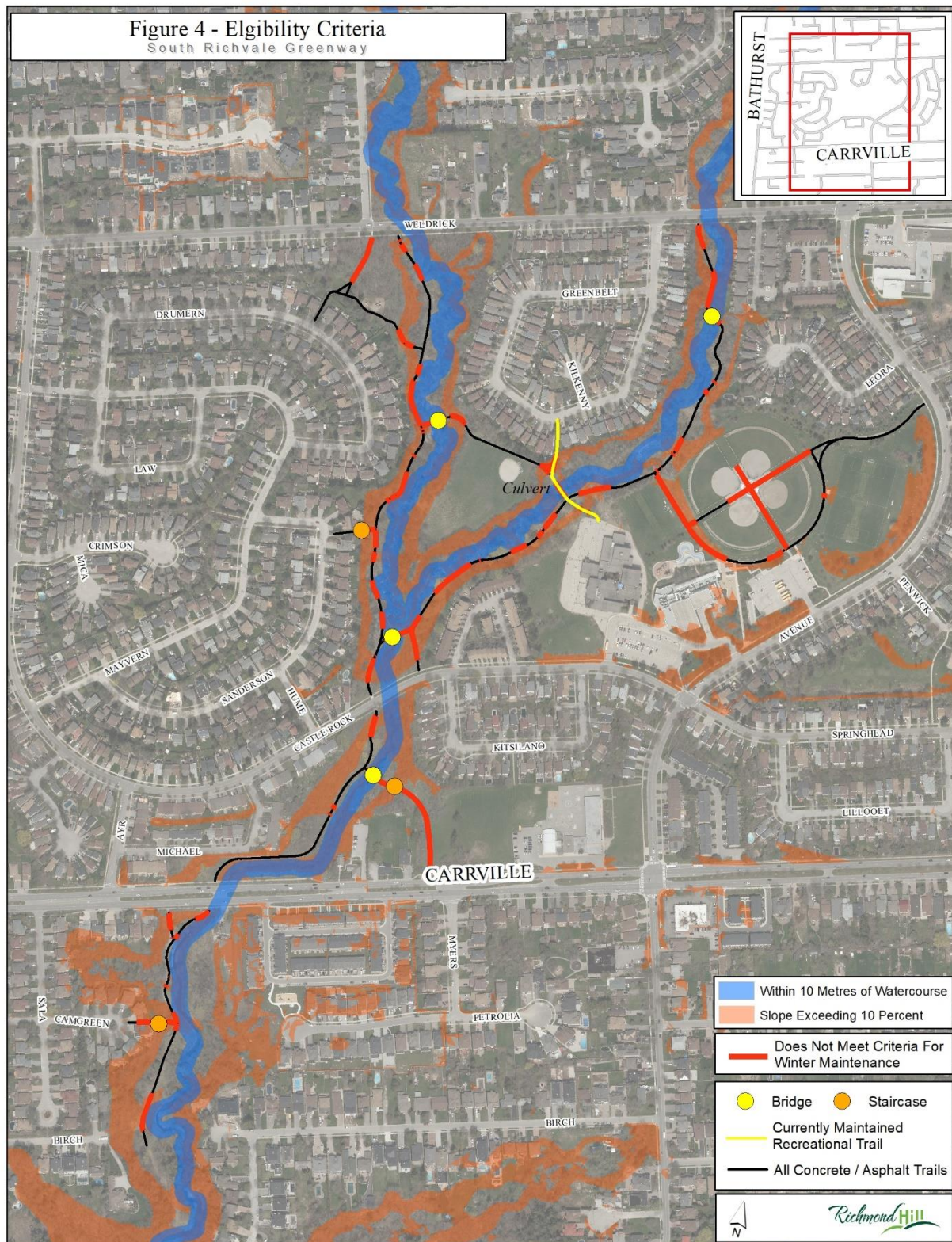
Staircase#1: Walkway to
Sanderson Crescent



Staircase#2: Woods Park



Staircase#3: Walkway to
Camgreen Court



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Report Approval Details

Document Title:	SRCS.23.26 - South Richvale Greenway Winter Trail Maintenance.docx
Attachments:	
Final Approval Date:	Nov 19, 2023

This report and all of its attachments were approved and signed as outlined below:

Frank Quarisa - Nov 17, 2023 - 9:15 AM

Tracey Steele - Nov 17, 2023 - 1:54 PM

Darlene Joslin - Nov 19, 2023 - 10:10 AM